

# THE EAGLE'S EYE

BRIGHAM YOUNG UNIVERSITY, PROVO, UTAH 84602



Tribe  
of Many  
Feathers



October 1978



John Maestas, left, Dr. V. Con Osborne, and Max W. Swenson discuss some activities being planned under the newly organized Multi-Cultural Education Program at BYU. They examine artifacts representing both.

Nov. 9....

## Forrest Gerard To Speak At BYU

Forrest J. Gerard, assistant U.S. Secretary of the Interior in charge of the Bureau of Indian Affairs, will speak at Brigham Young University Thursday, Nov. 9, on current issues confronting American Indians.

Indian students are especially invited to attend the 10 a.m. address in the de Jong Concert Hall of the Harris Fine Arts Center. His appearance is being sponsored by the BYU American Indian Services and Research Center in the Division of Continuing Education and the ASBYU Academics Office.

Following his address, Mr. Gerard will answer questions from the audience.

At noon he will be hosted at a luncheon in the Wilkinson Cen-

ter to which all of BYU's 500 Indian students are invited as well as the Indian Education Department faculty. Tickets for the luncheon must be purchased in advance for \$2.25 from BYU Indian Services or from officers of the Tribe of Many Feathers.

Elder George P. Lee, a member of the First Quorum of the Seventy for the LDS Church and the first Indian to receive a doctoral degree from BYU, will also attend the talk and luncheon. He and Dr. Thomas Sawyer, former Indian Education Department faculty member, will act as special hosts for Mr. Gerard.

A member of the Blackfeet tribe, Mr. Gerard was appointed as the first Assistant Secretary of the Interior for Indian Affairs

by President Carter in July 1977. Prior to Mr. Gerard's appointment, the federal official in charge of Indian affairs had the title of Commissioner and served under an Assistant Secretary. As an Assistant Secretary, he reports directly to the Secretary and participates in Interior Department policy-making.

A native of Browning, Mont., Mr. Gerard is a World War II Army Air Corps veteran who has a rich background in Indian affairs and the federal government. As staff assistant for the Senate Subcommittee on Indian Affairs from 1971-76, he was involved in the development of the Indian Self-Determination and Education Assistance Act, the Indian Financing Act, the Menominee Restoration Act, the Indian Health Care Improvement Act, and the legislation establishing the American Indian Policy Review Commission.

He was the first director of HEW's Office of Indian Affairs, was legislative officer for the BIA, and chief of the Office of Tribal Affairs for the Indian Health Service. He also spent one year as a Congressional Fellow, working with Congressman Al Ullman of Oregon and Senator George McGovern of South Dakota.

In 1976 the National Congress of American Indians gave Mr. Gerard its Heller Award for outstanding service to Indian people. He also received the 1966 Indian Achievement Award from the Indian Council Fire.

Mr. Gerard earned a B.A. degree in business administration from Montana State University in Missoula in 1949. After graduation he worked with the Montana State Department of Public Instruction. Subsequently, he worked with the Montana Tuberculosis Association and the Wyoming Tuberculosis and Health Association.

He is married to Klaus Pugh, an enrolled member of the Ojigla Sioux Tribe. They have five children.

## New BYU Multi-Cultural Program Includes Indians

John R. Maestas of Orem, Utah has been appointed director of the newly established Multi-Cultural Education Program at Brigham Young University, according to an announcement by BYU Academic Vice-President Robert K. Thomas.

The program, operating under the College of General Studies, brings together offices which formerly provided separate counseling and general services for BYU's American Indian students, international students, and other minority group students. BYU has more than 500 Indian students and approximately 1,200 international students representing some 70 countries on campus.

Dr. David M. Sorenson, dean of the College of General Studies and assistant dean of Student Life, said Mr. Maestas has been serving as chairman of the Indian Education Department and is being replaced in that position by Dr. V. Con Osborne, associate professor of Indian education.

Max W. Swenson, adviser to foreign students for the past three years, will continue in that position in the new program, the dean said.

Offices for the Multi-Cultural Education Program are in the Brimhall Building.

"The joining of the two formerly separate programs will allow for expanded services by sharing facilities and programs and by improved coordination," Dr. Thomas pointed out. "A large study area, counseling service, financial advisement, career education and information, and academic advisement are now immediately available and more accessible."

Special sections of classes taught by the faculty of the Indian Education Department and International Students' Office will be available to those students who

desire close faculty-student interaction in a multi-cultural setting.

In his new position, Mr. Maestas will be responsible for all international and U.S. minority programs and for coordinating all functions of the Indian Education Department and the International Office. He will supervise the program, activities, and fund-raising of the multi-cultural programs.

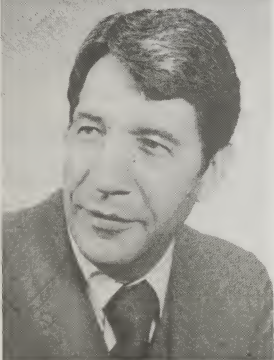
"Part of his responsibility will involve working with international companies who seek well-educated graduates for jobs in their home countries and exploring possibilities for scholarships and grants for international students," Dr. Thomas said.

Mr. Maestas will also continue to work with Indian tribes and government agencies in developing opportunities for Indian and other U.S. minority students and in seeking additional scholarships for these students. In addition, he will continue to serve on several LDS Church committees and on national committees in professional organizations.

Mr. Maestas, a Pueblo Indian from Manassa, Colo., has been chairman of Indian Education at BYU since the summer of 1973. He has been instrumental in developing the department into one of the leading Indian education programs in the United States. He is a graduate of Adams State College and has earned a master's degree at BYU. He has also completed all the course work for a doctoral degree. Before joining the BYU faculty in 1970, he taught English, speech and dramatic arts in high schools in Wyoming and Arizona. He is a veteran of the Marine Corps.

Dr. Osborne has been coordinator of Indian Academic Services at BYU. A veteran of the

Continued Page 2



FORREST J. GERARD



For centuries, Indians have been developing plants that would yield an interesting variety for consumption. Their contributions to agriculture on this continent and a renewed interest in agriculture are featured on page 4-5 in this issue.

## Improving Agriculture

There are many on going changes occurring among Native Americans. For some, there is a quiet revolution. Much of the change is in the economic area of development on various Indian reservations.

One significant change is in the area of agriculture. Indian people have, for centuries, made use of the land upon which they lived. Indians have used several main, traditional crops which were harvested and stored for use during winter. During times of drought and famine, Indian families had to go into the nearby surrounding area to gather crops which nature had provided for use in hard times.

With new methods being employed to assist the Indian family, the Indian continues an age-old traditional method of subsistence of tilling the earth. This re-acquaints the younger generation of traditional values of the older, age-wise people.

Several tribes have created vast areas of crop production. The Navajos have created their vast agriculture cooperative; the Crow's of Montana their vast acreage; and others have similar projects. This opens a beginning of agriculture as an economic base.

Also coupled with the agri-economy is the integration of new family ideas for improved relationships. With the improvement comes an area of better understanding among family members. This opens up an area of communication which is so vital to the Native American. On many reservations, rumors are vicious instruments of grief.

Sometimes, we as Indian people neglect the great power which our Heavenly Father has endowed us with—the power to create and to establish ourselves as a mighty nation. As with all powers, we forget who we are. The powers are special gifts from the one who loves us dearly. Many times we lose sight of the end for which it was intended.

There is a great urge for us to return to the gift of Mother Earth and continue patterns that made us great.

With the "melting pot society" and our visual observance of it through the electronic medium, we deprive ourselves of things that are more precious and dear to ourselves—the closeness and togetherness of our families.

The affluent society values ideas foreign to our fathers who, in former years, held family relations to be ideal. A distant cousin was either revered or a brother or sister. Now, we need to strengthen ourselves and draw the bonds closer together.

Larry Schurz  
Editor

## Alumni in the News

Arthur Allison, a Navajo from Tobeah, N.M., is heading the massive Navajo Agriculture Products Industry (NAPI) near Farmington, N.M.

Allison graduated from Brigham Young University in 1975 with a B.S. in agricultural economics. He is married to the former Emily McCabe, also a BYU graduate in elementary education, and they are the parents of four children.

NAPI is a large agriculture cooperative venture of the Navajo tribe. The project began initially in 1971 to undertake the development of irrigable lands on the eastern edge of the Navajo Reservation near Farmington.

During a recent interview,

Allison remarked, "The market of agricultural products is fascinating; it is also very demanding."

"My field of education at BYU prepared me for it. At the office, I spend long hours, and it is important to me. Sometimes I don't get home until late at night because I consistently watch the farm market figures and quotes to determine the price for our products," Allison said.

Continuing, he said, "With the farm development on the Navajo Reservation so new, we need more Indian people to help us in its development. I would especially like to see more of our own people get into this particular area of agriculture."

## Navajos Hold Conference

The Navajo Higher Education Office has been holding a series of workshops on various college campuses where Navajo students are attending. One such workshop was held on the Brigham Young University campus, Oct. 11.

The workshop is held to instruct and inform Navajo students on policies regarding admissions, financial aids, counseling and advisement.

The various workshops started three years ago under the sponsorship of the Navajo Higher Education Office. In addition, the students give feedback to the success of the program.

In conjunction with the workshops, a banquet is held to honor these students who made academic achievement.

At the BYU workshop, approximately 150 Navajo students attended and 20 were honored for their academic achievement.

Craig Brandon, Navajo education counselor and representative for Utah, said, "Funding is like any other business; it is sought after."

Brandon added, "We need more students to apply to graduate school. The number one responsibility for the Navajo student is to finish school. But the other responsibility, I feel, is for that student to return to the reservation to help our people."

One BYU student related that he knew of a fellow BYU graduate who finished and desired to help his people, but couldn't find a job in Window rock. Brandon remarked to this statement, "There are other areas where positions can be found—not just in Window Rock. There are many non-Navajos who are holding positions that deal directly with the Navajos. We need Navajos who can relate and understand to fill these positions."

Marie Saltchak, a counselor for the Navajo Higher Education Office in Shiprock, N.M., said, "There are many deadlines for the students, but it never fails to happen—some students turn in their applications a day late and expect to be funded. There are also many incidents where Navajos do not legitimately go through official channels to obtain funding; these are our own people."

Each year, we have to assist more students than we can fund. Unfortunately, we have to turn down many who desire to attend institutions of higher learning," she concluded.

## Multi-Cultural Contd. From Page 1

U.S. Army during World War II, he taught English in Utah secondary schools for 10 years before becoming a technical writer for Sperry-Univac Corporation in Salt Lake City. He joined the BYU faculty in 1964. He earned the B.A. and M.L.S. degrees at BYU and the Ph.D. degree at the University of Utah.

Mr. Swenson has served as assistant director for communications and as a counselor in the BYU Personal Development Center. He joined the BYU faculty in 1971 after teaching in the LDS Church seminary and institute program in Utah, Colorado and Idaho for several years. He also taught science and religion at the Church College of New Zealand for five years. The Army veteran earned an A.S. degree at Weber State and the B.S. and M.B.E. degrees at BYU.

## In National Affairs

On Oct. 10, President Carter signed a bill that includes \$270 million for the Legal Services Corporation for the 1979 fiscal year.

The Legal Services Corporation was established by Congress in 1974 as a private, non-profit organization to provide financial support for legal assistance to the poor in civil matters.

Currently, there are still approximately seven million of the nation's 29 million poor persons without that minimum access to legal services, including nearly 5.6 million living in areas where no legal service programs exist.

In addition, there are about 700,000 Native Americans and migrant farm workers, largely outside the census count of 29 million poor people, who are without minimum access to legal services.

The Native American Natural Resources Development Federation (NANRDF) will host a conference on the use of solar and alternative energy on Indian reservations at the Albuquerque, N.M., Convention Center, Dec. 5-7.

Purpose of the conference is to consider alternate ways of conserving the deposits of oil, gas, coal, uranium, and other natural resources through the development of solar energy, wind power, renewable energy sources such as crops, and the utilization of organic wastes to produce methane gas for cooking and heating.

Representatives of the conference will discuss the legal implications of energy development and regulations on Indian lands.

Registration is \$55 for the conference. Further information may be obtained at the NANRDF offices, 910 Fifteenth St., Suite 840, Denver, Colorado, 80202.

The Community Relations Service (CRS) of the Department of Justice recently sponsored a conference for members of the news media and the Alaska Native leaders to find ways to improve coverage of Arctic people and issues relating to them.

The conference was held in Anchorage in response to recurring charges by the Alaska Native people that the news media either ignores their culture or that its coverage of subsistence whaling, hunting, fishing, and trapping is biased against them.

The national Congress of American Indians (NCAI) recently elected Andrew W. Ebona, 35, as executive director of the organization. He is a Tlingit Indian from Alaska.

Ebona was elected in a landslide vote at the 35th Annual convention of the organization held in Rapid City, S.D.

Previously, Ebona was the executive director of the United Indian Planners Association, a professional membership association which has grown in the past 2 1/2 years from a small association of tribal economic development planners to a position in which it now represents all fields of Indian community planning from Alaska to Florida.

The Indian Mental Health program has improved considerably during the past 12 years but still has a long way to go. This is the observation of Manny Moran, administrative officer for the IHS Mental Health Program headquartered in Albuquerque with a staff of more than 300 serving Indians on and off reservations in mental health programs across the country.

Moran made a presentation recently to the National Indian Health Board to request the establishment of a Mental Health Standing Committee to help identify funding sources for Indian mental health programs and emphasize the need for a national commitment to Indian mental health service.

"We must make sure that mental health treatment will be a national effort so that all Indians will have adequate services available to them," Moran said.

Much of the success during the recent decade has been through programs that offer highly individualized treatment and local community involvement.

Individualized treatment allows mental health programs to be flexible in complying with the needs, wishes, and conditions of different Indian communities. One of the keys to this kind of process is the Indian paraprofessional, Moran observed.

"There aren't many professional mental health workers who are Indian," he said. "We are encouraging as many young Indians as we can pursue this field, but for the present we must rely on the work of non-Indian professionals and Indian paraprofessionals."

These paraprofessionals—Indians experienced in mental health work but lacking formal degrees—help overcome cultural and language barriers that arise between non-Indian professionals and Indian patients.

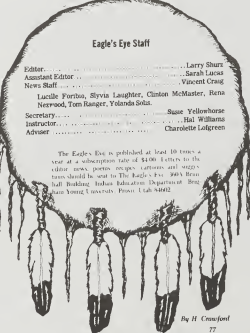
Indian paraprofessionals also play an important role in direct services given by psychotic and other severely disturbed patients. Their work is particularly important where state hospitals are inappropriate for Indian mental health patients, Moran said.

The availability of mental health services and competent Indian paraprofessionals has allowed many Indian patients to remain on reservations for care.

Because of the vast differences in the Indian populations they serve, Indian mental health programs work closely with local communities to determine specific needs of the area. They often work with tribal councils, a number of which have formed special mental health committees.

Lionel H. deMontigny, M.D., a Chippewa Cree, has become the first American Indian to be appointed an Assistant Surgeon General in the U.S. Public Health Service. He has become one of only 42 rank officers in the PHS's Commissioned Corps.

Dr. deMontigny is director of Indian Community Development in the Indian Health Service. He has been largely responsible for efforts within the Indian Health Service which led to the Indian Self-Determination and Education Assistance Act and the Indian Health Care Improvement Act.



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## Third National Indian Rodeo Finals Scheduled For Salt Palace Nov. 23-25

The numerous details to stage a championship rodeo are being finalized as the scene is being set for the 3rd annual Indian National Finals Rodeo scheduled for Salt Lake City on Nov. 23, 24 & 25. Few rodeos in the country can compare.

Not only will it include the best Indian contestants in North America matching their skills on broncs, bulls, riding and roping, but also an integral part of the entire production will include a pow wow, colorful and traditional Indian dancing, an arts and crafts display, a trade show, and an exposition displaying highlights of Indian reservations such as tribal life, progress and industry. All is necessary to make the entire affair a show place for Indian people.

One of the finest facilities in the American west, the beautiful Salt Palace Coliseum with seating capacity to accommodate 10,000 spectators each performance, will host the entire event. Results of the past two years have been highly encouraging. Fans from as far away as northern Alberta to Florida have been in attendance.

Contestants will compete from eight major Indian associations. They include the Indian

Rodeo Cowboys Association representing Canada; the United Indian Rodeo Association representing the Montana tribes; the Navajo Nation Rodeo Cowboys Association representing New Mexico and Colorado; the Western States Indian Rodeo Association representing Washington, Oregon, California, Nevada and northern Idaho; the Great Plains Indian Rodeo Association representing the Dakotas; the All Indian Rodeo Association of Oklahoma representing Oklahoma, Texas, and Kansas; the Rocky Mountain Indian Rodeo Association representing Utah, Wyoming and southern Idaho; and the All Indian Rodeo Cowboys Association representing Arizona and parts of New Mexico.

In all, 128 contestants that qualify in their own regions in the top two positions in each major rodeo event will participate.

"We expect to use bucking stock from about 10 Indian and PRCA stock contractors and we'll have the best" according to INFR officials. Timed event livestock will be provided by well known PRCA stock contractor, D.A. "Swamy" Kerby of Salt Lake City.

An added benefit to the INFR will be the support and assistance

provided by the Days of '47 Rodeo Committee in Salt Lake City, and the involvement in the pow-wow and trade show activity of the Utah Native American Consortium, the Brigham Young University Indian Education Department, and the local business community and organizations.

Top rodeo winners are declared world champions and will share in an estimated \$50,000 in prize money and special awards. Lance Harris of the Utah Native American Consortium will be the general coordinator for the Pow-wow, arts and crafts trade show, tribal expo and Indian village.

Tim Harwood, president of the Indian National Finals Rodeo Commission, commented that "the rodeo is the Indian rodeo cowboys' finest hour. The skills and talents they possess will prove to the spectator that Indian rodeo is truly among the most colorful in the world and the competition will be tough."

For further information contact Utah Native American Consortium office in Salt Lake City (801-481-8151). Rodeo tickets are on sale at the Salt Palace Coliseum and may be obtained by contacting The Salt Palace, 100 So. West Temple, Salt Lake City, Utah 84101.



## BYU Drug Abuse Posters Now Ready For Distribution

Three full-color anti-drug posters by Indian artists have been printed and are now available to Indian tribes throughout the United States and Canada.

The three posters were the best among 60 entries in the Second Annual National Native American Drug Abuse Poster Contest sponsored by the American Indian Services and Research Center at Brigham Young University.

Dr. Dale Tingey, director of BYU Indian Services, said the posters have been printed because of numerous pleas from concerned Indian parents, tribal leaders and community organizations combating drug abuse among young Indians.

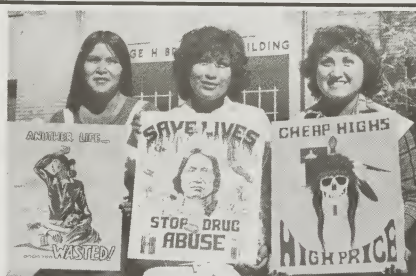
"The posters will especially be useful in Indian schools, colleges and universities, drug rehabilitation centers, and tribal centers," Dr. Tingey pointed out. "The three posters help illustrate warnings on drug abuse and will

be beneficial in our continuing education program with a wide variety of tribes and organizations."

Dr. Tingey said that many tribal leaders have complained about the lack of relevant Indian-oriented anti-drug media. "Many Indian leaders are seeking visuals that will attract the attention of their youth concerning the inherent dangers of drugs—everything from glue sniffing and spray paint sniffing to the more expensive types.

"Some of the least expensive drugs are the most dangerous to Indian youth," he added. "These posters should help fill some communications gaps."

The 18" x 25" posters are available at \$3 for a set of the three, plus \$1 for handling and mailing. These are available through American Indian Services, Box 70 JSB, Brigham Young University, Provo, Utah 84602.



The top three drug abuse posters in a nationwide contest are now printed and ready for distribution by the BYU American Indian Services and Research Center. First place poster (center) is being held by Tami Lyons, a Shoshone-Bannock from Boise; second place poster held by Karen Pinto, a Navajo from Ft. Wingate, N.M., at right; and third place poster (left) held by Alta Mark, a Navajo from Crystal, N.M.

## Onalee-- Action Louder Than Words!

Onalee, a Cherokee word for brotherhood, is the name of a club at Brigham Young University for returned Lamanite missionaries.

Mike Mansfield, president of this year's club, said that the main purpose of the organization is to help returned missionaries keep up their activity and spirituality, to encourage prospective missionaries in filling full-time missions, to correspond with full-time missionaries, and to reach out to the needs of all Lamanite students at BYU and in the surrounding areas.

He said the organization began two years ago and has had a great impact upon Lamanite students at BYU.

"The club has accomplished many things the past two years," Mansfield said. "It has been concerned with the welfare of the students, encouraged them through personal problems, comforted them in times of conflict, helped prospective missionaries to plan

for missions, and helped in missionary service."

Onalee has also stimulated an understanding of the gospel to non-members and members alike. It has strengthened testimonies by sponsoring firesides, including such speakers as Elder George P. Lee, Sister Theodore Tuttle, and Bryce Chamberlain's portrayal of the Prophet Joseph Smith.

This year's projected activities include a variety of firesides, missionary workshops, placement students' involvement, working with the 12 BYU stakes in correlating activities, service projects, temple excursions, and married couples' activities.

"The club is planning to organize and sponsor a Priesthood Seminar during winter semester to teach Lamanite the various functions of Church priesthood positions and to have mini-workshops on particular aspects of priesthood responsibilities," Mansfield said.

Onalee will also conduct surveys among Indian students on what jobs or positions they hold in various wards, the degree of students' activities in the Church, their relationships with their bishop, temple work, and genealogy and personal histories.

"The object of these surveys is to help the bishops and stake presidents reach the Lamanite students and to help improve students' spiritual and temporal lives during their stay at BYU," the president said.

The club is working closely with BYU American Indian Services and Research Center in hosting Assistant Secretary of the Interior Forrest Gerard. Members will sit tickets for the luncheon and usher in the concert hall for the talk.

Mansfield said the club will also sponsor firesides for Indian Placement students in the Utah area to acquaint them with University students and encourage

them to gain a college education. The club also helps with conferences of LDS Indian seminary students who come to campus for training and spiritual experiences.

Other officers this year include Rod Valarde and Leroy Gishie, vice-presidents; Linda Gishie, secretary and Bryce Chamberlain, coordinator of Indian personal services, as adviser.

All returned Lamanite missionaries are urged to attend meetings and avail themselves of the many activities of the organization, Mansfield said.





# Early Indians Developed Half Of Today's American Plants



By Ralph Crane

(Note: This is the first part of a two-part series.)

Most people have the concept that early Indians in America—those who greeted Columbus were primarily hunters and fishers.

But a closer look at history refutes this.

Few people realize that approximately 50 per cent of the plants grown in American today were developed centuries ago by Indians. This is the observation of Dr. Raymond B. Farnsworth, nationally known agronomist from Brigham Young University who has worked with many tribes in developing agricultural projects throughout the United States and Canada.

And what better time than the fall harvest time to appreciate the development of these food crops!

Americans and others throughout the world couldn't think about going without these popular and tasty crops.

Indians in the American hemisphere developed maize (corn) and methods of its culture; potatoes (both sweet and Irish) and their culture; peanuts some varieties of cotton; all the edible beans except horse beans and soybeans; all varieties of squashes such as the Hubbard, crocknecked cymbalings and cushaws; field pumpkins; sunflowers; Jerusalem artichokes; tomatoes; garden peppers, pineapples, watermelons, cassava, and bananas.

They also domesticated many native plants such as strawberries, American grapes, raspberries, blackberries, gooseberries, pecans, walnuts, butternuts, hickory nuts, chinquapins, chestnuts, pino nuts and a number of other food-producing plants that have been abandoned, Dr. Farnsworth said.

"Even though some historians give some American plants a Mediterranean origin, the one crop that stands at the head of the list of American farm products—maize or corn—is of Indian origin," Dr. Farnsworth pointed out. "The Indians had achieved marvelous progress in its culture and it was the most widely grown of all their domesticated plants."

A wild prototype of corn has never been found and in its present highly developed condition could not exist anywhere in a wild state, the professor said. Through the years, perhaps thousands of years which the Indians had cultivated corn, they so modified its habits of growth that they had strains suitable not only for greatly varied climatic and soil conditions but also for many special purposes.

He pointed out that all of the changes and improvements in corn which the white men have made during the past four centuries are insignificant when compared with the work of the Indians with this plant. A discovery about 50 years ago of a fossil ear of maize in South American places the culture of this plant and the presence of man in America back into very early ages.

The Indians had the flint corn of New England and the prolific corn of the South. They originated the dent corns of the Midwest. They also had corn that would mature in less than 90 days in southern Canada and which grew to about four or five feet in height.

In the South, some of their strains of corn required five months to mature and the stalks grew to a height of 10-12 feet.

Corn for special purposes were also common. Some such as the popcorn for making mess, for popping, for parching, to be eaten whole,

and sweet corn for roasting ears. When the Pilgrims landed in the northeastern part of the continent, the Indians taught them to plant corn with a fish in the planting in order to increase the productive capacity of the soil.

In 1675, Hennepin observed that the Iroquois managed a great deal of ground for sowing the Indian corn and reaped ordinarily as much in one harvest to serve them for two years.

"Had it not been for corn the early settlers received from the Indians, their colonies would have undoubtedly ended in tragedy and the colonization of the New World delayed for many years," Dr. Farnsworth said. "The discovery of America was the discovery of corn."

The professor said that corn is believed to have been developed from the annual "Teosinte" plant. By using carbon dating, it is estimated that the first domesticated crops of corn were grown in the Americas by about 2,000 B.C. at Tehuacan Valley southeast of Mexico City.

In his visits to Mexico and other Latin American countries, Dr. Farnsworth said that he was amazed to see the tremendous varieties of corn. In these areas are found the greatest reserve bank of "corn-germ-plasm" in the world.

He said that in some of BYU's agricultural projects in southeastern Mexico, agriculturalists have attempted to introduce American sweet corn. The insects and bugs literally "feasted on the plant" while native varieties appear to be disease and insect resistant.

Historically, Dr. Farnsworth noted, early explorers wrote accounts of what they saw that amazed them. Columbus' expedition to Cuba in 1492 reported a

## Modern Agricultural Projects Helping Thousands

When white men first arrived in America, they had a difficult time getting their crops to survive in the harsh winter weather. Had it not been for the Indians help in showing the settlers how to raise corn, squash and other vegetables—the colonies probably would have ended in tragedy.

As the white man became further established on the Eastern coast, he began pushing ever farther inland and as a side effect, pushed the Indians onto reservations—lands which the white man felt was worthless and wanted nothing to do with. About that same time, the federal government set up an Indian agency known as the Bureau of Indian Affairs (BIA) to administer to the needs of the reservations.

After the Indians were placed on the reservation, the incentive to work diminished to the point where they began relying almost totally on the federal government for their needs.

Today, the Navajos, Cherokee, Sioux, and Pueblos make up the greatest number of the total 560,000 Indians living in the Continental United States, excluding Alaska. They own approximately 55 million acres which roughly comes out to 100 acres each Indian could have to work with.

According to Dr. Ray B. Farnsworth, professor of agronomy and horticulture at Brigham Young University, the four corners area (which has the greatest concentration of Indians in the United States), along with other reservations, has found the land to

contain considerable deposits of coal, oil, gas and uranium, besides yielding a substantial supply of timber, range, and farmland along with spectacular scenery which attracts more tourists and tourist dollars each year.

Dr. Farnsworth explained that in the past, and to some extent today, the federal government holds too tight a rein among the Indians. But he says today, the Indians are beginning to show signs of wanting to operate their own affairs, as they have the resources to do it and become self-sustaining.

"Unfortunately, the Indians are still wards of the government," says Dr. Farnsworth. "Because of this, they are not true citizens of the United States, since they don't have to pay taxes under the present treaties."

Dr. Farnsworth says the Negroes have twice the freedom the Indians have in this country. And as long as the BIA exerts control over the Indians, they will not be able to become fully self-sustaining.

"The BIA is a self-perpetuating bureaucracy, which I think could work itself out of a job if only it would try to set up a training program to help the Indians develop their natural resources," he observed.

It wasn't until after World War II that the Indians began to receive any significant education, made possible through the GI Bill. Through this aid, this group became the first major

leaders to initiate self-sustaining measures among their people.

Dr. Farnsworth says during the last 15 years or so, the Indians have been encouraged to develop their own lands and BYU was one of the first to assist them in that department.

When BYU got involved back in 1958, they set up the Institute of American Indian Services and Research under the direction of Elder Boyd K. Packard, one of the general authorities of the LDS Church.

Elder Packard charged those involved with the program to find out all they could about the Indian people and then assist them to become self-sustaining.

When the Agricultural and home management program was first started in 1969, the major thrust came from the project service couples who worked directly with the Indian people in helping them develop their land and water resources and also taught them the techniques of farming and ranching.

From 1966-71, Dr. Farnsworth, presently agricultural director of the program, was the only technical assistant helping the Indians from BYU. Then in 1971, the school received a \$25,000 grant from the W.K. Kellogg Foundation, besides receiving additional funds from the Sara Melon-Scaife Foundation, Merrill Trust Fund, U.S. Steel and several other sources.

More BYU faculty from that time on became involved with the

program and four different programs were then set up, under the direction of Dr. Dale Tingey and Dr. Leo P. Vernon.

The first project involved showing agriculture demonstrations to groups of Indian people, while the second one, involved working with individual farmers and ranchers in coming up with better agricultural methods. The third project involved working with the tribal enterprises set up by the Indian leaders. The fourth project involved working with cooperatives in which several families went in together on a farm project.

Since that small beginning, BYU personnel have helped the Indians to come up with better sprinkling, irrigation, and fertilizing methods.

Dr. Farnsworth said BYU last year spent \$22,000 from Grant funds to help in these areas and the Indians themselves spent \$27,257. "This is a major change," he said. "When we started the program, most of the Indians weren't financially able to purchase fertilizer themselves."

Since 1966, BYU has supervised 87 projects on 44 different Indian reservations. According to Dr. Farnsworth, 80 percent of those started have been successful, while the main reasons the others failed was because of lack of finances to work with water development.

The Moapa Indian Reservation in Southern Nevada is one example of success through assis-

tance from BYU, in which the Indians have become more self-sustaining.

To begin with, the Moapa Indians had been leasing 12 cubic feet of water per second as well as their land to outside interests for \$2,165 per acre. In 1969, the lease ran out, so the Indian tribe asked BYU if it would assist them in coming up with better farming techniques.

Statistical figures at the end of 1974, showed the Indians as harvesting 3.4 tons of hay per acre. In 1977, this figure rose to 7.3 tons per acre. The same thing happened with barley, which yielded 49.0 bushels per acre in 1974 and in 1977 yielded 77.0 bushels. In 1975, the tribal council in Moapa showed assets of \$100,000 which was twice as much as they had received in 20 years for their lands when leasing. Dr. Farnsworth said.

This story is being repeated in many places all across the United States, Canada and Mexico. According to Dr. Farnsworth, BYU's program has had a strong influence on Indian agriculture, especially in the Western States. He added the BYU is still being invited to make feasibility studies on several reservations.

"It's the greatest thrill to see the development which has come among them in the last 10-12 years. I think it is one of the greatest off-campus programs that BYU is involved in today, especially because of the assistance it makes to minority groups," he concluded.

great deal of tilled land, some sowed with beans and a corn called maize which tasted good-baked or dried—and made into flour.

A french expedition in the Iroquois area of western New York in 1687 reported they spent five or six days cutting down corn with their swords. In the villages nearby, they found plenty of horses, black cattle, fowl, and hogs.

Dr. Farnsworth observed that the horses referred to in this account were evidently developed remnants of those brought to America by the Spanish. The horse has since been an important asset of the Indians, although it has largely been replaced by the "pickup" truck today.

Corn has become one of America's best crops for nutrition and sales.

Through fertilization, herbilization, and irrigation—man has been able to increase the average yields of corn per acre, he said. For example, in 1926, farmers in the United States produced 26.6 bushels of corn per acre. Now there has increased nearly three times to more than 100 bushels of corn per acre.

In 1928, there were two million bushels harvested; in 1978, it is estimated to reach more than six million bushels. Predictions indicate that by the end of the 1980's the U.S. would produce more than nine million bushels.

Corn has had many uses over the centuries.

The Inca, the Maya, and the Aztec used it as a symbol of life. They worshipped it in the form of Gods and Goddesses. The new world cereal was a basic ingredient in their literature, art, religion, and their daily habits.

Dr. Farnsworth said that today, corn is an ingredient in more than 1,000 food items found on the shelves of the average American supermarket. It is popped and packaged, brewed and buttered.

Corn starch stiffens everything from puddings to shirts. The dextrose material processed from corn helps keep surgical

patients alive. And even the cob is transformed into solvent in this age of industrial modification.

Even though yields of today have improved somewhat in bushel production by the acre, the descriptions of the plants, the number of ears to the stalk, the number of rows of grain on an ear, and the number of grains on a row as given in the earliest accounts of Indian corn—while not equal to the extreme cases sometimes found—correspond very closely with average farm crops at the present time.

The commercial varieties have been quite generally purified in regard to color; yet, Indian tribes still have strains distinctly pure as far as color is concerned which they use in their religious ceremonies.

Dr. Farnsworth said that over the years, white men have been working towards the isolation of pure strains; the Indians, with the exception of special purpose strains, allowed wide mixing of varieties.

Yields were high even in early-day America. Smith, in 1600, reported a yield of 360 bushels of Indian corn from 13 gallons of seed.

Captain John Smith, of Jamestown fame, observed maize growing in Virginia in 1607: Every stalk of their corn commonly beareth two eares, some 3, seldom any 4, many but one, and some none. Every ear ordinarily hath betwixt 200 and 500 grains. The stalks being green hath a sweet juice in it, somewhat like a sugar cane which is the cause that when they gather their corn greene, they suck the stalkes."

Other accounts of early Indian corn describe it growing in Cuba in 1492, in Texas in 1527, in Canada in 1534, on Roanoke Island in 1585, as well as in other places.

Narratives of early American travelers give interesting items regarding the use of corn by Indians.

In 1607, Percy wrote: "The manner of baking of bread is



Agricultural projects being assisted by BYU includes everything from irrigation (left page) to fruit trees, alfalfa, and potatoes. In top right photo, Dr. Raymond Farnsworth visits with Martin Aguilar (right) of San Ildefonso Pueblo and Jos Ramos Oyenque of San Juan Pueblo, N.M. At lower left, Tlay Hanna and Hugh Bigler plant a fruit tree at Suspi.

thus. After they pound their wheat into flour, with bole water they make it into paste and work it into round balls and cakes; then put it into a pot of seething water; when it is sod thoroughly, they lay it on a smooth stone, there they harden it as well as in an oven."

White wrote in Maryland in 1634: "The Indians live for the most part on a kind of paste which they call Pone, adm Omini both of which are made of Indian corn.

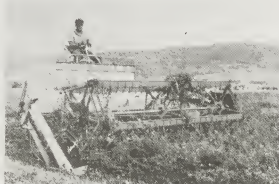
William Penn in 1683 wrote that Indians' diet was mostly maize or corn which they called homine. Other accounts say that "jonny cake" is a corruption of "journey-cake" meaning small cakes or corn meal used while traveling.

Roger Williams, in 1643 in Rhode Island, described the Indians' favorite article of diet as berry bread made of corn meal and such berries as happened to be ripe such as strawberries, raspberries, huckleberries, etc. Modifications of this bread are still very popular in New England.

Another crop most generally associated with the Indian is tobacco. It was a luxury to them and was not commonly smoked. However, it was used primarily in religious rites and as a means of welding the "bands of peace and friendship." Some tribes, however, did have both men and women smoking the "sacred" plant.

Dr. Farnsworth said that many tribes believed that tobacco had unusual healing powers and was used to preserve and maintain good health. Roger Williams reported that it was used extensively to relieve rheumatism and toothaches.

The BYU scientist pointed out that early Indian use of tobacco was in accord with the teaching of the LDS Church prophet, Joseph Smith Jr. In his "Word of Wisdom" declaration, he said that the Lord tells us that "tobacco is not for the body, neither for the belly, and is not good for man, but is an herb for bruises and all sick cattle, to be used with judgment and skill."



TO BE CONTINUED

# Supai-- Living On 'Island Of Time'

A heavily laden horse-and-mule train slowly winds its way down the dusty trail of Havasu Canyon, a long southern arm of the colorful Grand Canyon in northern Arizona.

Soon, the pack train becomes dwarfed by the sheer red sandstone cliffs rising more than 2,000 feet high.

The pack train, and many like it during a week's time, is like an umbilical cord from the outside world to more than 350 Havasupai Indians living eight miles down the trail in a naturally widened area of the canyon that some allude to as an "island of time."

Food is the primary load for most of the pack trains to the remote village.

But in recent years, through the efforts of the Brigham Young University American Indian Services and Research Center in cooperation with agricultural missionaries of The Church of Jesus Christ of Latter-day Saints (the Mormons), the Havasupai Indians have become less dependent on the food brought in by pack trains.

"Now, they are raising more of their own food in gardens and on fruit trees to help sustain them throughout the year," reported Dr. Dale T. Tingey, director of BYU Indian Services who makes frequent trips to the village to assist and supervise agricultural projects. "Garden seeds, fruit trees, and grapevines, as well as thousands of tomato plants, were donated through BYU to the Supai and dozens of other American and Canadian Indian tribes during the past six years."

The major emphasis of the program is to encourage Indians to be more self-supportive and use the land and water to improve their lifestyle nutritionally and economically.

For the Supai in their remote

island paradise, their lifestyle changed somewhat about eight years ago when electric lines were strung from a power station high on a cliff about 2,400 feet above the village. Since then, they have enjoyed--for the first time--refrigerators and freezers to help them keep their food supplies more conveniently.

"Incidentally, the freezers and refrigerators were flown to the village by helicopter because the tribe does not allow motorized vehicles on the narrow eight-mile trail," Dr. Tingey said. "Most families live in modern, pre-fabricated houses flown in sections by helicopter and assembled in place on tribally-allotted property. Even those few families which still live in old log-mud cabins or those made of cut sandstone also enjoy these modern conveniences."

Every home in the village is connected to a central water supply system, and the tribe is now working to install a sewerage treatment system.

During the past few years, the Supai have learned to dry some vegetables and fruit in the hot summer sun. They also freeze and bottle some items.

Electricity also brought in radios and record players. Pop-rock and country-western music emanates from many homes to pierce the silence of the quiet canyon village.

"The tribe recently completed a small, air-conditioned building which serves the village as the central market for food items," Dr. Tingey noted. "Ice cream, packed to the village in dry ice, is a favorite treat for youngsters as well as adults. Soda pop in all varieties is also a special treat."

No beer, liquor or wine is allowed on the reservation. Violators, whether members of the tribe or not, find themselves before the tribal judge who gives rather severe sentences. Occasionally, someone is sentenced to the new jail behind the general store. It's a vast improvement over the old rock jail with bars for windows.

Getting the food down to the village by pack horse is only part of the problem. To get to the edge of the canyon to meet the pack trains, trucks must haul the food for about 100 miles over a dirt road.

"Hauling food this distance causes prices to be very high for the Indians," Dr. Tingey observed. "This is one reason why we're encouraging gardens and fruit tree planting. Like everyone else, they're feeling

the pinch of inflation and constant increases in food prices."

Many of the Supai still thrive on U.S. government subsidies while supplementing that money with whatever job they can find in the village. Many fathers work in the outside world and come home occasionally. Most employment is very limited in the village because the only businesses there, in addition to the general store, are a cafeteria and two very small hotels.

The majority of earned income of tribal members, however, centers around the pack-animal business. Packers are licensed by the Tribal Enterprise and contribute a percentage to their income to the tribe. The Enterprise also earns some money by charging \$5 per day for each tourist in the canyon.

The only way tourists may enter the canyon is by making arrangements with the tribe. Tourists either hike or ride a horse. It now costs \$50 round-trip on a horse. Because of the high cost of transportation in and out, all families own their own horses. About 5,000 tourists are allowed each year.

"Improved agricultural projects in recent years have been very supportive of the pack-animal business," Dr. Tingey said. "Since sales of hay cost about \$4 per bale and must be hauled in by pack train or by helicopter, alfalfa plantings have increased considerably throughout the two miles of small farms."

No mechanical devices, such as a bailer, have been flown into the village. Therefore, most alfalfa is cut by hand with a scythe and carried to the horses in the corals.

Tiny Hanna, one of the first tribal members to plant large stands of alfalfa under the supervision of BYU Indian Services, is delighted with the fruit of the prize system and how he has been able to improve the quality of life for his family.

He raises and sells alfalfa to the pack-train owners. In about two hours, he can cut and sell enough alfalfa to pay for his \$40 monthly rent on his new home. Like others in the village, food is his most expensive monthly expenditure.

"Hanna has also solved many food problems for his family by planting considerable amounts of corn," Dr. Tingey reported. "He was one of the first of the tribe to break tradition and plant corn in rows instead of in clumps. Agriculture experts suggested the row system would bring higher yield."

Fellow tribesmen were amazed when Mr. Hanna's corn fields would produce two or three ears per stalk. The clump planting would produce one per stalk.

"Corn, of course, is a staple in the diet of American Indians all the year long," Dr. Tingey said. "They eat some fresh corn but dry most of it on the cob. They also use it in stews or grind it up to make Indian frybread."

Because of the village isolation, farmers there are limited in modern conveniences. The tribe owns one Army Jeep and one small tractor with necessary accoutrements. BYU has two tractors there which are at the disposal of anyone in the tribe upon request. The Mormon agricultural missionary, usually a retired farmer, operates the vehicle most of the time. The tractors plow, disc, and level fields as well as make furrows for flood irrigation from the nearby river.

These mechanized vehicles are the only ones driven on the sandy, widened trail that



meanders through about two miles of the village. A trailer filled with happy children and their dogs is frequently pulled by the jeep or one of the tractors as a high-light of a warm summer day.

The second major source of income for the tribe is tourism. The season peaks from April through October, and bookings for dates during that period must be completed well in advance of any planned trip to the area. "It's a great place to get away from it all," observed Dr. Tingey. "There are no newspapers, no television--and mail comes in by pack animals to the reservation, one of the smallest in the United States."

Summer hikers find the canopy of cottonwoods and willow a welcome relief from the dry, scorched sandstone on the plateau above. The artesian waters of Havasu Creek emerge as a small stream two miles up the canyon from the village. The water takes a 70-mile underground journey from melting snows on the San Francisco Mountains near Flagstaff. About half a mile from the beginning of the bubbling spring, the river increases to become knee deep and 20 feet wide. It has been measured at 30 million gallons of water per day. The river eventually flows into the Colorado River at the bottom of the Grand Canyon.

Tourists, as well as tribesmen, find Navajo Falls an inspiring sight. These falls are about one mile downstream from the village and cascade over apron-like crusts of travertine, 20 feet long and more than five feet across, which have been washed from the mineral-rich water.

Another half-mile downstream is the spectacular Havasu Falls, photographed frequently for calendars. The blue-green water, from which the tribe gets its name, falls about 160 feet into a circular lagoon around which maidenhair ferns and golf green-like grass carpet the banks. The water drains into travertine tubs, shaped like lily pads and floored with pink and white sand. These make swimming a delight.

Another mile down the trail is Mooney Falls, the highest of the valley's three cascades at 196 feet. It was named for a prospector who fell to his death there in the early 1880's.

About one-half mile below Mooney Falls is the only place for camping in the narrow valley. Since most of the reservation is within the boundaries of the Grand Canyon, the U.S. Department of the Interior operates the campground. Spring water and toilet facilities are located there. But campers must haul out all of their own refuse because of the inaccessibility of the campground.

The canyon has been the home of the Havasupai for more than 1,000 years. Traditional stories say that they went into the canyon to escape attempts by another Indian tribe to enslave them. Even today visitors can see ancient dwellings on a high



slope which were made by early tribesmen for protection in case of emergencies.

The first white men to visit the Havasu Village, local historians say, was Father Francisco Garcia, a Spanish priest who wrote in his journals that there were 34 families living in the village in 1776. They were red cloth and had horses and cattle obtained in trade with the near-by Hopi Indians on the canyon rim above.

In the century that followed, the Havasupai were visited by Jacob Hamblin, a Mormon missionary who brought them their first fruit trees and vegetable seeds," Dr. Tingey said. "The tribe flourished in the years to follow, numbering several thousand at one time but were later decimated by a small pox epidemic. During a cold winter about 40 years ago, the tribe cut down almost all of the fruit trees to burn as firewood just to survive."

Any illnesses today in the village are taken care of by a frequent visit of a government medic. BYU established a dental clinic there last year. A volunteer dentist flies about 400 miles from Utah once a month, lands on the dirt road on the plateau above the canyon, then hikes down the canyon two days of fixed teeth.

Emergency medical or dental cases are handled by helicopter and usually the patient is flown to the South rim of the Grand Canyon about 60 miles east. The hospital there is also accessible over a very rough desert road. Women who are about to have a baby are flown out early to avoid last-minute problems.

Life in the quiet village centers around the general store, cafeteria, elementary school, and church buildings. Teenagers go to high school off the reservation.

In recent years, women and children in the tribe were taught beadwork and weaving by Mormon missionaries. These skills have now spread so that many families earn some income by selling their products to tourists.

Somewhere above the scene of paying attention to the matter of surviving in the isolated canyon, the tribe lost its culture. They do not dance or dress like many tribes in the traditional ways. However, this changed recently when Mormon missionaries encouraged a revival of some of the early traditions of singing, dancing, weaving, and doing beadwork.

The Supai have their own language among themselves but use English to communicate with visitors.

With all of the progress agriculturally in the past few years, however, the pace of life for the Havasupai Indians has remained about the same. Their existence in the frail environment of the canyon still depends considerably on outside supplies--especially food for survival.

And tribal leaders are the first to say that they would like to keep the remainder of mankind just that arm's reach away.



Holding a specially developed bot-weater grape plant on the Havasupai Reservation are, from left, Tina Hanna, LDS agricultural missionary Howard Bigler, and Dr. Dale Tingey, director of BYU Indian Services.





## BYU Student Garden Project Brings High Yield

Ten Indian couples attending Brigham Young University have completed harvesting vegetables raised this summer in a special gardening project sponsored by the BYU American Indian Services and Research Center.

Dr. Dale T. Tingey, director of Indian Services, said that the garden project had excellent yields during the summer and helped these married couples learn the value of working the soil and obtaining results from their labor. They harvested corn, squash, cauliflower, tomatoes, cucumbers and cabbage.

"Students received training and supervision on proper planting and maintaining a garden plot," Dr. Tingey said. "The projects really became a family affair with help coming from wives and children. This is all a part of the project to train and encourage young families to have a garden."

Seeds, fertilizers and irrigation water for the project were donated by Indian Services. A tractor and other gardening equipment were also provided. The project was developed in conjunction with a massive program of Indian gardens. Tribes and

families from Minnesota to California planted gardens with seeds donated by Indian Services.

Student coordinator Bob Scabby, a Southern Cheyenne Indian from El Reno, Okla., said that this was his first garden experience. "Learning how to plant and make crops grow properly was easier than expected. I wish more Indian couples could have the opportunity to participate in such a project. Our family enjoyed an improved diet of fresh vegetables which were more nutritious and less expensive than the traditional Indian diet."

Dr. Tingey said that Indians are natural farmers. He recently met a BYU graduate on the Navajo reservation who is director of a large cooperative farm of 25,000 acres in northern New Mexico. He observed that Indians want to use their lands for raising food and helping Indian people improve their diet.

These garden projects, as well as recently developed fruit and grain programs, will upgrade the Indians' nutritional levels considerably, Dr. Tingey said. Harvest time is always exciting to the Indians.

## Six Bison Donated For Project

For hundreds of years, the buffalo was a major source of meat for North American Indians until massive slaughters by hide traders left the herds depleted.

Recent interest in redeveloping the buffalo industry as a meat source for American Indians has prompted an Idaho rancher to donate six bison to the Brigham Young University American Indian Services and Research Center as a core herd from which to obtain breeding stock for interested Indian tribes.

Dr. Dale Tingey, director of the BYU Indian Services, said that Blaine Hendricks of the Hendricks Ranch near Rexburg, Idaho, has donated two male and four female buffaloes to BYU to begin the project. Hendricks is a well-known rancher who has also cross-bred beef and buffaloes to get tasty "beefaloos."

"The six animals have already been transported to a 75-acre

Bob Scabby, a Cheyenne from Oklahoma (seated) and Mike Mansfield, a Hopi-Chocoma-Maricopa from Mesa, Ariz., bring the last load of corn from the student garden while Ralph Crane (left in photo at right) and Wayne Lansing pick the last tomatoes and other vegetables. Crane is a Blood from Calgary and Lansing a Navajo from Blanding.

ranch owned by John Rainer Sr. on the Taos Pueblo reservation in northern New Mexico," Dr. Tingey said. "Mr. Rainer, a rancher and also director of the American Indian Scholarships, Inc., will be in charge of the buffalo breeding project for BYU."

Dr. Tingey said that the BYU Indian Services is now looking for other buffaloes to add to the present stock so that the herd can be built up rapidly to meet the needs of Indian tribes. "As soon as we can, we plan to place buffaloes among various tribes who want to raise them for food," he added.

"Indian tribal leaders from



various parts of the country have already expressed interest in the buffalo project," Dr. Tingey said, "and are eager to receive starter herds to help improve the quality of food and life for native Americans."

The BYU buffaloes are right at home among the cedar trees, piñon pine, sagebrush, and wild grasses on the Rainer ranch near Taos. For many years, the tribe has maintained a herd of 25 buffaloes which run wild on tribal-owned pasture land in the foothills and mountains near their pueblo.

Most of the tribe of 2,500 live in picturesque five-story adobe dwellings which have been continuously occupied since the middle 1600s. It's the oldest high-rise condominium in the United States.

Projects at the Taos Pueblo are not new for BYU Indian Services. For several years, BYU agriculture experts and agricultural missionaries from the LDS Church have worked with tribal members in planting fruit trees, gardens, wheat, and alfalfa.

## Careful Planning Helps Family Food Requirements

By Sylvia Laughter

The ability to store food is an indication of modern man's technical advancement. He no longer has to seek food as the cave-man did every time hunger demanded. He can, with a little advance planning, have on hand food in quality and quantity sufficient to meet his biological and nutritional needs for some time. He must exercise, however, the skill necessary to meet these needs with good quality food and eliminate waste.

Food storage requires good housekeeping. Planning involves selecting the right kind of food for the desired purpose. Good housekeeping means to have a place to keep the food in good condition—free from contamination, infestation from insects, molds, moisture and other deteriorating influences.

What to store depends largely on the family's established food patterns, which should be directed by sound nutritional principles to maintain adequate nutrition for good health.

Family members who have special diet concerns will need to have their requirements satisfied. Quantities to store should be determined by the number, ages, food and resources available.

No food can be stored forever. Store foods that will be eaten, and eat the foods that are stored. This is the only way to keep foods in good condition and assure the family of foods they like and are accustomed to. It is extremely expensive and unwise to store any quantity of food that the family does not normally eat or food that is not acceptable in the family food pattern.

Any sound food program should keep in mind the National Research Council recommendations for adequate nutritional balance. The following is a brief outline of the recommended diet for maintaining good health. For one day the diet should include:

Milk or milk products.....  
Adults 2 cups; children and teens—1 to 1½ cups

Meats, fish, eggs, beans, peas, or nuts as alternates.....  
2 servings

Vegetable-fruit group.....  
4 or more servings. One serving of citrus fruit, one serving of dark green or yellow vegetables at least every other day.

Cereal and bread group....  
4 or more servings of whole wheat or enriched product.

At the present time the Defense Civil Preparedness Agency recommends that every family have a two-week food supply

on hand in case of a natural or man-made disaster.

This can be done by one of two methods to take care of home food storage for emergencies. The first is to increase the regular food supply so that there will always be a two-week supply of food on hand. The second is to store, maintain and rotate an emergency supply of food in a shelter. A number of commercial concerns prepare food for just this purpose. This type of food is generally more expensive and does not always fit the normal food pattern. It is convenient and carefully packaged. With a little planning, this can be made part of the basic food pattern.

Methods of preserving food—such as canning and dehydrating as well as other ways—have made it possible to have these supplies on hand year around.

To maintain high quality in home-stored foods in relation to canning, some basics are necessary:

Select fruit that is fully ripe, but still firm. Can the fruit as soon as possible after it is harvested.

Sort fruits for size and ripeness. Over-ripe fruits or those with bruised spots will spoil quickly.

Wash fruits thoroughly.

Wash small lots at a time and lift the fruit out of the water, rather than pour the water off the fruit. Rinse in clear water. Handle berries carefully. A few berries placed in strainer and collander and gently sprayed or rinsed will help to retain the shape of the berries.

Select container. For home-canned products, use only standard Mason jars and lids. Stock jars (those in which you buy mayonnaise, peanut butter, etc.) are not satisfactory for home canning.

The stock jars were not intended to be used for home canning. The glass has not been tempered for the time and temperature necessary for canning. The mouth opening and the threading on the neck of the jars do not match the metal lids and screw bands produced for the home canning jars, and the jars may not seal properly.

Examine the jars to make sure they are sound and free from cracks or nicks. Wash them thoroughly in hot soapy water, rinse and turn them upside down on a clean towel until ready for use.

Prepare closures. There are a number of different types of closures available for use in home canning. Make sure you read the manufacturers' instructions

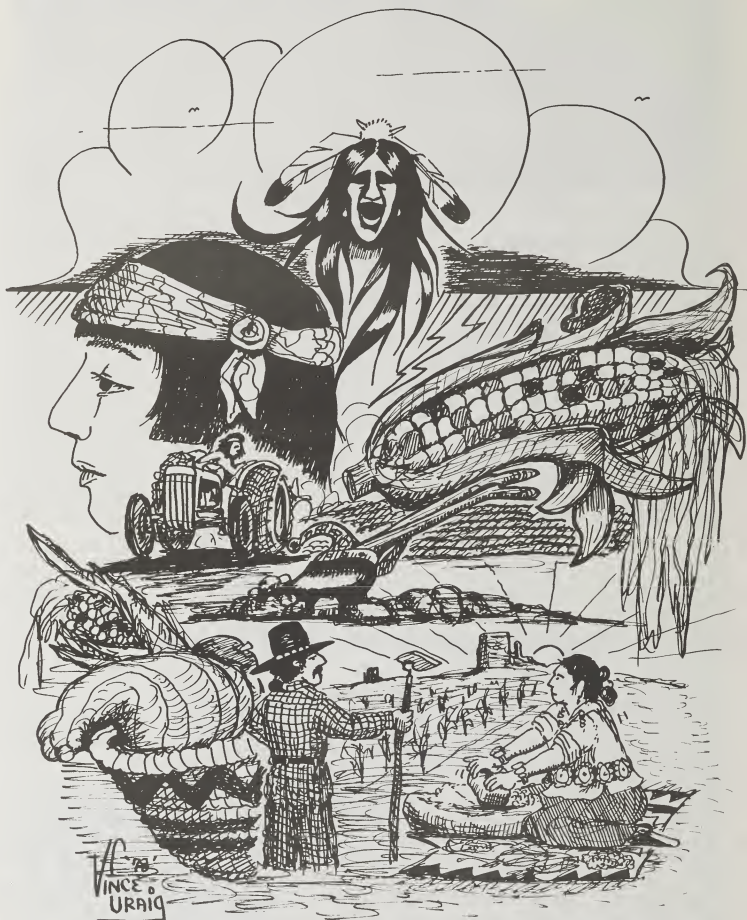
for each type or brand, and follow the directions carefully.

There are a number of ways that vegetables and fruits can be stored. These are canned, frozen, dried or fresh. Storage for any length of time requires careful planning. There are, in the event of a man-made or natural disaster, refrigeration may not be available.

Chemical changes take place in canned products during storage. These changes are relatively complicated, and the greatest factor to speed up these changes is the temperature at which the food is stored.

The reactions in fruits and vegetables are approximately doubled with each 18 degree F. increase in temperature. These reactions bring about changes in the flavor, color, textures and nutritional value of the canned product.

For emergency storage, canned food is recommended. There is a large number of ways to choose from. Keep in mind that these products need to be stored in a cool, dry place. The temperature should be kept between 40 degrees F. to 60 degrees F. for best quality. It is important to rotate these products every year, more often if the temperature of the storage area is not kept this low.



*The old man stood on the dry parched land  
Defying the elements which sought to end  
The gentle harvest of his calloused hand  
To even the drought he would not bend.*

*Once again it's time for the Harvest  
The smell of corn ears cooking in the fire  
For after the reaping comes the rest  
Leaving very little for the heart's desire.*

—Vince Craig